

### REMARKS

Claims 1-8, 12 and 13 are currently pending. Two changes to claim 1 are proposed.

The final Office Action includes a rejection of claim 1 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite in noting an obvious typographical error in claim 1, line 22. First, it is respectfully noted that this error could have been pointed out in the first Office Action. Second, because of the obvious nature of this typographical error, entry of the amendment is deemed appropriate. Specifically, this change is to simply change "said optical connection" to "said optical fibre". Accordingly, Applicants respectfully request that the change to claim 1 at line 22 be permitted. In light of this change, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §112, second paragraph.

The Office Action also includes a rejection of all of the pending claims, claims 1-8, 12 and 13, under 35 U.S.C. §103 as allegedly being unpatentable over the *Sundberg et al.* patent (U.S. Patent 5,747,793). This rejection is respectfully traversed.

The Office Action acknowledges that the *Sundberg et al.* patent does not disclose compensating for bending of the optical fibre by reference to correction data based on a pre-stored data. However, it appears that the Office may have overlooked a second distinction.

Specifically, claim 1 as presented to the Examiner at the time of the final Office Action included recitation of "transmitting the reference light signal through the same optical fibre without being affected by the sensor element due to the measuring light being separated from the reference light, wherein the measuring

signal and the reference signal have different wavelengths” and “detecting said reference signal after being transmitted through the optical fibre.” This corresponds to, for instance, Figures 1 and 1a of the present application where it can be seen that reference signal  $\lambda_2$  adding a different wavelength is reflected by the sensor element. Taken in conjunction with the recitation of “detecting said measuring signal after being influenced by the sensor element” one understands from the original claim language that an additional important distinction exists between the present invention and the device according to *Sundberg et al.*

This is an important distinction of the *Sundberg et al.* patent includes a distinct and separate filter 110 as shown in Figure 1b, which is adapted to reflect a reference signal. The *Sundberg et al.* patent teaches that this optical filter 110 “reflects the reference light” at column 5 lines 44-47. In marked contrast, the present application indicates that a reflection of the reference signal ( $\lambda_2$ ) is provided by the means of an interface or transition between the pressure sensor 8 and the optical fibre 4, as explained at page 4, lines 27 through page 5, line 1 and illustrated in Figure 1a.

More precisely, this transition according to the exemplary embodiment of the present invention is provided due to the fact that the pressure sensor in preferred embodiments is constituted by a silicon component which will only allow transmission of light having a wavelength which exceeds the particular limit value. For this reason, the reference signal has a wavelength  $\lambda_2$  which is chosen to be less than said limit value. This means that the reference signal is reflected at the transition or boundary between the optical fibre 4 and the pressure sensor 8. No separate filter element such as optical filter 110 of the *Sundberg et al.* patent, is necessary.

It is also noted in passing that the Office Action appears to use the term “sensor element” when referring to the entire arrangement of Figure 1b of the *Sundberg et al.* patent. However, the present application describes a “sensor element” which is constituted by a silicon-base component which defines a cavity, a membrane, etc. which is attached to an end of fibre 4. The components which are attached to the end of the fibre according to the *Sundberg et al.* patent has a filter 110 and a mirror 112, which must be regarded as very different from the “sensor element” of the present invention.

This distinction is reflected in the original language as emphasized by reciting that the reference signal is detected after being transmitted through the optical fibre (which is the same optical fibre in which measuring light signal is transmitted but without being affected by the sensor element due to the measuring light being separated from the reference light), as emphasized by the additional language of this detection taking place after being reflected by the sensor element, rather than imposing a separate filter. This feature is expressly found in independent claim 5 (“a second detector intended to detect a light signal reflected by the sensor element”) and is found implicitly in independent claim 1. Claim 1 is proposed to be amended to make this even more explicit.

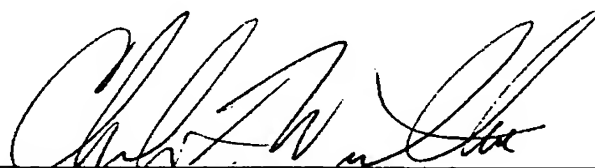
Yet another distinction is found in claims 4, 6, 7, 8, 12 and 13, which go to details of the pressure sensor construction. These details are also not found in the applied art.

In light of the foregoing, Applicants respectfully request reconsideration and allowance of the above-captioned application. Should the Examiner be of an initial impression that the claims are not allowable, he is respectfully requested to contact the undersigned to establish a telephone interview. Early allowance of the present application is respectfully requested.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: March 22, 2004

A handwritten signature in black ink, appearing to read 'Charles F. Wieland III', is written over a horizontal line.

Charles F. Wieland III  
Registration No. 33,096

P.O. Box 1404  
Alexandria, Virginia 22313-1404  
(703) 836-6620